

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2004/051688

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04B10/08 G02B6/34

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04B G02B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/65174 A (BAROZZI GIANPAOLO ; MELI FAUSTO (IT); AINA STEFANO (IT); PIRELLI CAVI) 16 December 1999 (1999-12-16) page 27, line 23 - page 28, line 28; figures 7-9	1,2,4-7
Y	page 29, line 15 - line 29 page 18, line 5 - line 8 ----- -/--	3

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

6 October 2004

Date of mailing of the international search report

15/10/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Shaan, M

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2004/051688

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9965174	A	16-12-1999	EP 0964275 A1	15-12-1999
			BR 9911082 A	20-02-2001
			CA 2334542 A1	16-12-1999
			WO 9965174 A1	16-12-1999
			EP 1088417 A1	04-04-2001
			JP 2002518696 T	25-06-2002
			US 2001024542 A1	27-09-2001
DE 19829227	A	03-02-2000	DE 19829227 A1	03-02-2000

## PATENT COOPERATION TREATY

PCT

NOTIFICATION OF RECEIPT OF  
RECORD COPY

(PCT Rule 24.2(a))

From the INTERNATIONAL BUREAU

To:

COCKAYNE, Gillian  
Marconi Intellectual Property  
Crompton Close  
Basildon  
Essex SS14 3BA  
United Kingdom

Date of mailing (day/month/year) 13 September 2004 (13.09.2004)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference P/63927/U64	International application No. PCT/EP2004/051688

The applicant is hereby notified that the International Bureau has received the record copy of the international application as detailed below.

Name(s) of the applicant(s) and State(s) for which they are applicants:

MARCONI COMMUNICATIONS GMBH (for all designated States except US)  
PEGG, Steven, Ian (for US)

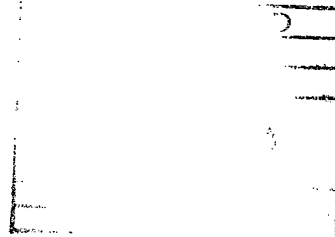
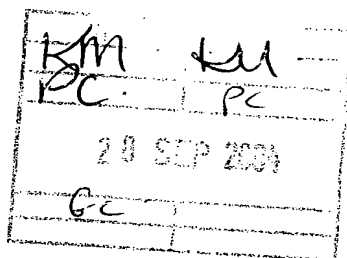
International filing date : 02 August 2004 (02.08.2004)

Priority date(s) claimed : 02 August 2003 (02.08.2003)

Date of receipt of the record copy  
by the International Bureau : 17 August 2004 (17.08.2004)

List of designated Offices :

AP : BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW  
EA : AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
EP : AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR  
OA : BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  
National : AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW



The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No. (41-22) 338.70.80

Authorized officer:

Carole GAUD

Telephone No. (41-22) 338 8227

## Continuation of Form PCT/IB/301

## NOTIFICATION OF RECEIPT OF RECORD COPY

<b>Date of mailing (day/month/year)</b> 13 September 2004 (13.09.2004)	<b>IMPORTANT NOTIFICATION</b>
<b>Applicant's or agent's file reference</b> P/63927/U64	<b>International application No.</b> PCT/EP2004/051688

**ATTENTION**

The applicant should carefully check the data appearing in this Notification. In case of any discrepancy between these data and the indications in the international application, the applicant should immediately inform the International Bureau.

In addition, the applicant's attention is drawn to the information contained in the Annex, relating to:

- ☒ time limits for entry into the national phase - see updated important information (as of April 2002)
- ☒ requirements regarding priority documents (if applicable)

A copy of this Notification is being sent to the receiving Office and to the International Searching Authority.

## INFORMATION ON TIME LIMITS FOR ENTERING THE NATIONAL PHASE

The applicant is reminded that the **"national phase" must be entered** before each of the designated Offices indicated on the cover sheet of this Notification by paying national fees and furnishing translations, as prescribed by Articles 22 and 39 and the applicable national laws. In addition, the applicant may also have to comply **with other special requirements** applicable in certain Offices. It is the **applicant's responsibility** to ensure the necessary steps to enter the national phase are taken in a timely fashion. Most Offices do not issue reminders to applicants in connection with the entry into the national phase.

The **applicable time limit** for entering the national phase will, **subject to what is said in the following paragraph**, be **30 MONTHS** from the priority date, not only in respect of any elected Office if a demand for international preliminary examination is filed before the expiration of 19 months from the priority date (see Article 39(1)), but also in respect of any designated Office, in the absence of filing of such demand, where Article 22(1) as modified with effect from 1 April 2002 applies in respect of that designated Office. For further details, see PCT Gazette No. 44/2001 of 1 November 2001, pages 19926, 19932 and 19934, as well as the PCT Newsletter, October and November 2001 and February 2002 issues.

In practice, **time limits other than the 30-month time limit will continue to apply, for various periods of time**, in respect of certain designated or elected Offices. For **regular updates on the applicable time limits (20, 21, 30 or 31 months, or other time limit)**, Office by Office, refer to the PCT Gazette ("Section IV" part published on a weekly basis), to the PCT Newsletter (on a monthly basis) and to the relevant National Chapters in Volume II of the PCT Applicant's Guide (the paper version of which is updated usually twice a year and the Internet version of which is updated usually on a weekly basis). Finally, a cumulative table of all applicable time limits for entering the national phase is available from WIPO's Internet site, via links from various pages the site including those of the Gazette, Newsletter and Guide, at <http://www.wipo.int/pct/en/index.html>.

Information about the requirements for **filing a demand for international preliminary examination** is set out in the PCT Applicant's Guide, Volume I/A, Chapter IX. Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination (at present, all PCT Contracting States are bound by Chapter II).

## REQUIREMENTS REGARDING PRIORITY DOCUMENTS

For applicants who have not yet complied with the requirements regarding priority documents, the following is recalled.

Where the priority of an earlier national, regional or international application is claimed, the applicant must submit a copy of the said earlier application, certified by the authority with which it was filed ("the priority document") to the receiving Office (which will transmit it to the International Bureau) or directly to the International Bureau, before the expiration of 16 months from the priority date, provided that any such priority document may still be submitted to the International Bureau before that date of international publication of the international application, in which case that document will be considered to have been received by the International Bureau on the last day of the 16-month time limit (Rule 17.1(a)).

Where the priority document is issued by the receiving Office, the applicant may, instead of submitting the priority document, request the receiving Office to prepare and transmit the priority document to the International Bureau. Such request must be made before the expiration of the 16-month time limit and may be subjected by the receiving Office to the payment of a fee (Rule 17.1(b)).

If the priority document concerned is not submitted to the International Bureau or if the request to the receiving Office to prepare and transmit the priority document has not been made (and the corresponding fee, if any, paid) within the applicable time limit indicated under the preceding paragraphs, any designated State may disregard the priority claim, provided that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within the time limit which is reasonable under the circumstances (Rule 17.1(c)).

Where several priorities are claimed, the priority date to be considered for the purposes of computing the 16-month time limit (and all other PCT time limits) is the filing date of the earliest application whose priority is claimed (Article 2(xi)(b)).

## PATENT COOPERATION TREATY

17 NOV 2004

PCT

From the INTERNATIONAL BUREAU

To:

COCKAYNE, Gillian  
Marconi Intellectual Property  
Crompton Close  
Basildon  
Essex SS14 3BA  
United Kingdom

**NOTIFICATION CONCERNING  
SUBMISSION OR TRANSMITTAL  
OF PRIORITY DOCUMENT**

(PCT Administrative Instructions, Section 411)

Date of mailing (day/month/year) 05 November 2004 (05.11.2004)	<b>IMPORTANT NOTIFICATION</b>
Applicant's or agent's file reference P/63927/U64	
International application No. PCT/EP2004/051688	
International publication date (day/month/year) Not yet published	
International filing date (day/month/year) 02 August 2004 (02.08.2004)	Priority date (day/month/year) 02 August 2003 (02.08.2003)
Applicant MARCONI COMMUNICATIONS GMBH et al	

- By means of this Form, which replaces any previously issued notification concerning submission or transmittal of priority documents, the applicant is hereby notified of the date of receipt by the International Bureau of the priority document(s) relating to all earlier application(s) whose priority is claimed. Unless otherwise indicated by the letters "NR", in the right-hand column or by an asterisk appearing next to a date of receipt, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
- (If applicable) The letters "NR" appearing in the right-hand column denote a priority document which, on the date of mailing of this Form, had not yet been received by the International Bureau under Rule 17.1(a) or (b). Where, under Rule 17.1(a), the priority document must be submitted by the applicant to the receiving Office or the International Bureau, but the applicant fails to submit the priority document within the applicable time limit under that Rule, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.
- (If applicable) An asterisk(\*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b) (the priority document was received after the time limit prescribed in Rule 17.1(a) or the request to prepare and transmit the priority document was submitted to the receiving Office after the applicable time limit under Rule 17.1(b)). Even though the priority document was not furnished in compliance with Rule 17.1(a) or (b), the International Bureau will nevertheless transmit a copy of the document to the designated Offices, for their consideration. In case such a copy is not accepted by the designated Office as priority document, Rule 17.1(c) provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

<u>Priority date</u>	<u>Priority application No.</u>	<u>Country or regional Office or PCT receiving Office</u>	<u>Date of receipt of priority document</u>
02 Augu 2003 (02.08.2003)	103 35 419.0	DE	28 Octo 2004 (28.10.2004)

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No. (41-22) 338.70.80

Authorized officer

Aïcha NIBUT

Telephone No. (41-22) 338 9025

From the INTERNATIONAL BUREAU

**PCT**

FIRST NOTICE INFORMING THE APPLICANT OF  
THE COMMUNICATION OF THE INTERNATIONAL  
APPLICATION (TO DESIGNATED OFFICES WHICH  
DO NOT APPLY THE 30 MONTH TIME LIMIT  
UNDER ARTICLE 22(1))

(PCT Rule 47.1(c))

To:

COCKAYNE, Gillian  
Marconi Intellectual Property  
Crompton Close  
Basildon  
Essex SS14 3BA  
ROYAUME-UNI

Date of mailing (day/month/year)

03 March 2005 (03.03.2005)

Applicant's or agent's file reference

P/63927/U64

**IMPORTANT NOTICE**

International application No.

PCT/EP2004/051688

International filing date (day/month/year)

02 August 2004 (02.08.2004)

Priority date (day/month/year)

02 August 2003 (02.08.2003)

Applicant

MARCONI COMMUNICATIONS GMBH et al

1. **ATTENTION:** For any designated Office(s), for which the time limit under Article 22(1), as in force from 1 April 2002 (30 months from the priority date), **does apply**, please see Form PCT/IB/308(Second and Supplementary Notice) (to be issued promptly after the expiration of 28 months from the priority date).
2. Notice is hereby given that the following designated Office(s), for which the time limit under Article 22(1), as in force from 1 April 2002, **does not apply**, has/have requested that the communication of the international application, as provided for in Article 20, be effected under Rule 93bis.1. The International Bureau has effected that communication on the date indicated below:  
10 February 2005 (10.02.2005)

CH

In accordance with Rule 47.1(c-bis)(i), those Offices will accept the present notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

3. The following designated Offices, for which the time limit under Article 22(1), as in force from 1 April 2002, **does not apply**, have not requested, as at the time of mailing of the present notice, that the communication of the international application be effected under Rule 93bis.1:

LU, SE, TZ, UG, ZM

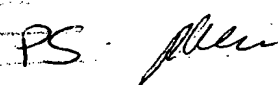
In accordance with Rule 47.1(c-bis)(ii), those Offices accept the present notice as conclusive evidence that the Contracting State for which that Office acts as a designated Office does not require the furnishing, under Article 22, by the applicant of a copy of the international application.

**4. TIME LIMITS for entry into the national phase**

For the designated Office(s) listed above, and unless a demand for international preliminary examination has been filed before the expiration of **19 months** from the priority date (see Article 39(1)), the applicable time limit for entering the national phase will, **subject to what is said in the following paragraph**, be **20 MONTHS** from the priority date.

In practice, **time limits other than the 20-month time limit** will continue to apply, for various periods of time, in respect of certain of the designated Offices listed above. For **regular updates on the applicable time limits** (20 or 21 months, or other time limit), Office by Office, refer to the *PCT Gazette*, the *PCT Newsletter* and the *PCT Applicant's Guide*, Volume II, National Chapters, all available from WIPO's Internet site, at <http://www.wipo.int/pct/en/index.html>.

It is the applicant's **sole responsibility** to monitor all these time limits.



The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Authorized officer

Yolaine Cussac

Facsimile No.+41 22 740 14 35

Facsimile No.+41 22 338 70 80

## PATENT COOPERATION TREATY

PCT/EP2004/051688

From the INTERNATIONAL BUREAU

**PCT**INFORMATION CONCERNING ELECTED  
OFFICES NOTIFIED OF THEIR ELECTION

(PCT Article 31(7) and Rule 61.3)

To:

STASIEWSKI, Piotr, G.  
Marconi Intellectual Property (Post point 52)  
New Century Park  
P.O. Box 53  
Coventry CV3 1HJ  
ROYAUME-UNI

Date of mailing (day/month/year) 02 June 2005 (02.06.2005)		IMPORTANT INFORMATION	
Applicant's or agent's file reference P/63927/U64			
International application No. PCT/EP2004/051688	International filing date (day/month/year) 02 August 2004 (02.08.2004)	Priority date (day/month/year) 02 August 2003 (02.08.2003)	
Applicant MARCONI COMMUNICATIONS GMBH et al			

1. The applicant is hereby informed that the International Bureau has, according to Article 31(7), notified each of the following Offices of its election:  
**EP:** AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR  
**National:** BG, CA, CN, CZ, DE, JP, KP, KR, MN, NO, PL, RO, RU, SK, US
2. The following Offices have waived the requirement for the notification of their election; the notification will be sent to them by the International Bureau only upon their request:  
**AP:** BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW  
**EA:** AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
**OA:** BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  
**National:** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BR, BW, BY, BZ, CH, CO, CR, CU, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MW, MX, MZ, NA, NI, NZ, OM, PG, PH, PT, SC, SD, SE, SG, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
3. Since the election(s) was (were) made after the expiration of 19 months from the priority date, the applicant is reminded that he must, subject to the following paragraph, enter the national phase within 20 months from the priority date (or later in some Offices) before some of the designated Offices in respect of which Article 22(1), as modified with effect of 1 April 2002, does not apply, by paying the national fee(s) and furnishing, if prescribed, a translation of the international application.
- However,** in respect of most other designated Offices, the time limit of 30 months (or later) may nevertheless apply. See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters, the *PCT Newsletter* and the WIPO Internet site, updated regularly.

MIP Coventry	
SS	Se
29 JUN 2005	
PS	Re

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer  Yolaine Cussac
Facsimile No.+41 22 740 14 35	Facsimile No.+41 22 338 70 80



# PATENT COOPERATION TREATY

WO 2005/013516  
PCT/EP2004/05168

From the INTERNATIONAL BUREAU

# PCT

## NOTIFICATION CONCERNING TRANSMITTAL OF COPY OF INTERNATIONAL APPLICATION AS PUBLISHED OR REPUBLISHED

To:

COCKAYNE, Gillian  
Marconi Intellectual Property  
Crompton Close  
Basildon  
Essex SS14 3BA  
ROYAUME-UNI

Date of mailing ( <i>day/month/year</i> ) 10 February 2005 (10.02.2005)		
Applicant's or agent's file reference P/63927/U64		IMPORTANT NOTICE
International application No. PCT/EP2004/051688	International filing date ( <i>day/month/year</i> ) 02 August 2004 (02.08.2004)	
Priority date ( <i>day/month/year</i> ) 02 August 2003 (02.08.2003)		
Applicant MARCONI COMMUNICATIONS GMBH et al		

The International Bureau transmits herewith the following documents:

- ☒ copy of the international application as published by the International Bureau on 10 February 2005 (10.02.2005) under No. WO 2005/013516
- ☐ copy of international application as republished by the International Bureau on under No. WO  
For an explanation as to the reason for this republication of the international application, reference is made to INID codes (15), (48) or (88) (*as the case may be*) on the front page of the attached document.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer  Yolaine Cussac
Facsimile No.+41 22 740 14 35	Facsimile No.+41 22 338 70 80

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

MARCONI INTELLECTUAL PROPERTY  
New Century Park (Post Point 51)  
Coventry, West Midlands CV3 1HJ  
GRANDE BRETAGNE

MIP Coventry	
SS	See
- 1 JUL 2005	
PCT	PS

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY

(PCT Rule 71.1)

Date of mailing  
(day/month/year) 29.06.2005

Applicant's or agent's file reference  
P/63927/U64

## IMPORTANT NOTIFICATION

International application No.  
PCT/EP2004/051688

International filing date (day/month/year)  
02.08.2004

Priority date (day/month/year)  
02.08.2003

Applicant  
MARCONI COMMUNICATIONS GMBH et al

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

### 4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international  
preliminary examining authority:



European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

Authorized Officer

Toscano, L

Tel. +49 89 2399-5747




# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P/63927/U64	<b>FOR FURTHER ACTION</b>		See Form PCT/PEA/416
International application No. PCT/EP2004/051688	International filing date (day/month/year) 02.08.2004	Priority date (day/month/year) 02.08.2003	
International Patent Classification (IPC) or national classification and IPC H04B10/08, G02B6/34			
Applicant MARCONI COMMUNICATIONS GMBH et al			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau) a total of 1 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand  02.05.2005		Date of completion of this report  29.06.2005	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer  Shaalan, M  Telephone No. +49 89 2399-7723	



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

**10/566924**

International application No.  
PCT/EP2004/051688

**AP20 Rec'd PCT/PTO 01 FEB 2006**

**Box No. I Basis of the report**

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

**Description, Pages**

1-8 as originally filed

**Claims, Numbers**

5-7 as originally filed

1-4 received on 02.05.2005 with letter of 28.04.2005

**Drawings, Sheets**

1/2-2/2 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/EP2004/051688

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-7
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-7
Industrial applicability (IA)	Yes: Claims	1-7
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SEPARATE SHEET)**

International application No.

PCT/EP2004/051688

The subject-matter of the claim therefore differs from this known wavelength-selective optical signal processing unit in that the continuous wavelength-selective reflecting structure reflects the first group arriving from a second direction (677-674,678) after having passed through the processing unit into the passing direction of the second group and that an incoupling filter (674) for combining the processed first group and the second group into an outgoing wavelength multiplex (672).

The problem to be solved by the present invention may therefore be regarded as "to modify the wavelength-selective optical signal processing unit in order to process the dropped channel information.

The solution proposed in the claim of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons.

The processing unit is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to solve the problem posed, given the hint in D1, page 18, lines 5-8.

Also that an incoupling filter (674) for combining the processed first group and the second group into an outgoing wavelength multiplex (672) is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to solve the problem posed.

Dependent claims 2-7 do not contain any features which, in combination with the features of any claim to which it/they refer, meet the requirements of the PCT in respect of inventive step, see document D2 and the corresponding passages cited in the search report.

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

Reference is made to the following documents:

- D1: WO 99/65174 A (BAROZZI GIANPAOLO ; MELI FAUSTO (IT); AINA STEFANO (IT); PIRELLI CAVI) 16 December 1999 (1999-12-16)
- D2: SHINJI MATSUOKA ED - INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS: "SUPERVISORY SIGNAL TRANSMISSION METHODS FOR OPTICAL AMPLIFIER REPEATER SYSTEMS" COMMUNICATIONS : CONNECTING THE FUTURE. SAN DIEGO, DEC. 2 - 5, 1990, PROCEEDINGS OF THE GLOBAL TELECOMMUNICATIONS CONFERENCE AND EXHIBITION(GLOBECOM), NEW YORK, IEEE, US, vol. VOL. 3, 2 December 1990 (1990-12-02), pages 1846-1850, XP000218888 ISBN: 0-87942-632-2
- D3: DE 198 29 227 A (SIEMENS AG) 3 February 2000 (2000-02-03)

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.

The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (the references in parentheses applying to this document):

a wavelength-selective optical signal processing unit comprising an outcoupling filter (673, 678) for decomposing an incoming wavelength multiplex (671) comprising a plurality of channels at different wavelengths into a first (676) and a second group (678) of channels, a processing unit (page 18, lines 5-8) for carrying out a processing of the first group, and an incoupling filter (674) for combining the processed first group and another group into an outgoing wavelength multiplex (672), the outcoupling filter (673, 678) and the incoupling filter (674, 678) have a common continuous wavelength-selective reflecting structure (678), which reflects the first group from the incoming multiplex into a first direction (676) and lets the second group pass (678-674) and which reflects the first group arriving from a second direction (677-674-678)

CLAIMS

APPROVED FOR 01 FEB 2006

1. A wavelength-selective optical signal processing unit comprising an outcoupling filter (1) for decomposing an incoming wavelength multiplex comprising a plurality of channels at different wavelengths into a first and a second group of channels, a processing unit (14) for carrying out a processing of the first group, and an incoupling filter (1) for combining the processed first group and the second group into an outgoing wavelength multiplex, characterized in that the outcoupling filter (1) and the incoupling filter (1) have a common continuous wavelength-selective reflecting structure, which reflects the first group from the incoming multiplex into a first direction and lets the second group pass and which reflects the first group arriving from a second direction after having passed through the processing unit (14) into the passing direction of the second group.
2. The signal processing device of claim 1, characterized in that the wavelength-selective structure is a Bragg grating (7).
3. The signal processing device of claim 1, characterized in that the wavelength-selective reflecting structure is a dichroic mirror.
4. The signal processing device according to any one of the preceding claims, characterized in that it is provided for a wavelength multiplex having a plurality of information channels and at least one supervisory channel (OSC), that the at least one supervisory channel forms the first group and that the information channels form the second group.